



Contribution ID: 160

Type: **not specified**

First results from the MeerKAT Fornax Survey (broadband continuum data)

Wednesday, 29 November 2023 11:30 (20 minutes)

One of the goals of the SKA precursors and pathfinders is to release high sensitivity and high resolution images of the faint polarized sky. This will allow us to constrain the origin and the evolution of large scale magnetic fields and to study in detail the properties of the faint radio sky. In this talk I will show a preview of the challenges and opportunities offered by the SKA1-mid future surveys thanks to the MeerKAT Fornax Survey (MFS). The MFS is a MeerKAT key science project aiming at studying galaxy evolution (through neutral hydrogen) and the Fornax cluster magnetic field (with broad band spectro-polarimetric data) at L-band. The survey is still ongoing and with the broadband data acquired so far we obtained the densest number of polarized sources ever detected, i.e. 80 polarized sources per square degree. This huge number of polarized sources demonstrate the excellent capabilities of the MeerKAT telescope and allowed us to constrain the properties of the faint polarized sources as well as the intervening large scale magnetic fields.

Research area

Magnetism

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Session Classification: Parallel - Galaxy Clusters & Magnetism